Remarks

The present response is to the Office Action mailed the above-referenced case on November 17, 2004. Claims 1-28 are presented below for examination. The Examiner has rejected claims 1, 3-8, 12-22 and 24-27 under 35 U.S.C. 102(e) as being anticipated by Basso et al. (U.S. 6,370,119), hereinafter Basso. Claims 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso as applied to claims 1 and 8, and further in view of Zauman et al. (U.S. 6,658,479), hereinafter Zauman. Claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso as applied to claims 1 and 24, and further in view of Aviani et al. (U.S. 6,789,125), hereinafter Aviani.

Applicant has carefully studied the references provided by the Examiner, and the Examiner's rejections and statements of the instant Office Action. In response applicant provides argument to more particularly point out to the Examiner the subject matter of applicant's invention regarded as patentable, which the Examiner appears to misunderstand in his rejections and statements, and which is not taught or suggested in the prior art presented, either singly or in combination. As an aid in prosecution applicant reproduces claim 1 below for convenience.

Claim 1 recites:

1. (original) A control system for controlling data flow over data paths on a data-packet-network according to specific destinations known in the network comprising:

    a network monitoring system for monitoring network performance parameters;

    a network access system for accessing specific nodes in the network; and

    a control software executable on the network access system for assigning and changing cost parameters at selected nodes in the network;

    characterized in that a network administrator monitoring the network or portion thereof uses the network access system and control software to assign and implement cost

values at the selected nodes, the values associated individually with a specific destination or destinations, the values establishing forwarding costs to be incurred at the selected nodes, and link costs to be incurred per data link between the nodes such that manipulation of such cost value assignments enables load balancing of data traveling through the network.

Applicant now wishes to bring the Examiner's attention to the above specific claim language which recites "values associated individually with a specific destination or destinations,...such that manipulation of such cost value assignments enables load balancing of data traveling through the network". The Examiner has stated in his remarks that Basso discloses applicant's data flow controlling system comprising all of applicant's claimed limitations, including that the cost values at the selected nodes are associated individually with a specific destination or destinations (Fig. 3, #31) such that manipulation of such cost value assignments enables load balancing of data traveling through the network (Fig. 3, #33 and #34). Applicant respectfully disagrees with the Examiner's interpretation of the teachings of Basso as reading on applicant's above claimed limitations.

Specifically, a key and advantageous aspect of applicant's invention over that of Basso is that firstly, in applicant's invention, output-link cost values are enhanced with a variable designating a specific destination, the destination expressed as a reportable label that can be tabled and reported by any given node in the network. Referring to applicant's specification with reference to the exemplary example given in Fig. 2, the link cost value expressed in the notation of the prior art example of Fig. 1 is modified to express an output link cost made specific to a single destination (j). The new variable expressed denotes a single output cost per directed acyclic graph (DAG) label (j). The concept of assigning costs per DAG label allows network administrators to more efficiently control manipulation of active data paths at router points.

Secondly, applicant's invention provides a new cost per router, or forwarding cost, in a network, and teaches and claims manipulation of data routes per DAG label by

configuration of the cost variables at a single router. Applicant's Fig. 3 illustrates route manipulation per label configurable at the point of a single router. In the example given, the forwarding cost is assignable and configurable to any router or node in a network to be reported to any neighbor router in the network per destination label (j). As further detailed for Fig. 3, the administrator has the ability to so configure any router in a network with a forwarding cost per DAG destination label enabling the administrator to much more efficiently balance the data load over any portion of a network. Applying and configuring a forwarding cost at a single router provides more data flow efficiency and cost-effectiveness in the network, and assigning and configuring forwarding costs per DAG destination label provides the administrator with much finer control over data paths to a specific destination in a given network.

Now referring to the reference of Basso, upon careful review of the portions cited and applied in support of the Examiner's remarks, as well as the remainder of the reference, applicant can nowhere find any explicit teaching of associating cost values individually with a specific destination or destination group, nor is there any specific teaching of manipulation of such cost value assignments enabling better load balancing throughout the network.

The Examiner has stated the Basso teaches that the cost values at the selected nodes are associated individually with a specific destination or destinations (Fig. 3, #31) such that manipulation of such cost value assignments enables load balancing of data traveling through the network (Fig. 3, #33 and #34). Applicant argues however, that although an identified destination node is included in the input parameters of 31, the destination node identification is required only to retrieve the optimum route towards that node because the algorithm computes the shortest path to all the nodes in the network (col. 5, line 62-66).

In contrast, applicant's invention teaches that output-link cost values are enhanced with a variable designating a specific destination, the destination expressed as a reportable label that can be tabled and reported by any given node in the network. Basso

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teaches simply identifying the end node as an end reference point for computing shortest path to the end destination.

Further to the above, Basso also fails to explicitly teach or suggest manipulation of cost value assignments enabling load balancing of data traveling through the network, as taught in applicant's invention and recited in the claims. Basso mentions in the background section of the specification, however vaguely and inconclusively, assigning at each link in the network an "administrative weight" based on additive costs, and the administrator may change the weight values to favor one path over others. A path selection algorithm is also taught that computes the best path taking into account additive and restrictive costs. However, the input parameters are required at each connection request, including the destination node, (col. 5, lines 61-62), which cannot read on applicant's teaching that the destination expressed as a reportable label that can be tabled and reported by any given node in the network. Applicant also asserts that the teaching in Basso of assigning administrative weight to links in the node and setting different values at each connection request cannot read on applicant's teaching of the manipulation of data routes per DAG label by configuration of the cost variables at a single router. Based on the above applicant asserts that Basso therefore fails as a primary reference, and that claim 1 as argued above is clearly and unarguably patentable over the reference as cited and applied by the Examiner.
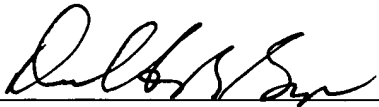
Claims 8 and 24 are applicant's method claims for altering an established course of a data path, in accordance with the limitations of claim 1, and the Examiner has rejected both claims based on the reasons applied to the rejection of the base claims. Therefore, as argued above by applicant on behalf of claim 1, claims 8 and 24 are also then patentable over the primary reference of Basso.

Claims 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso as applied to claims 1 and 8 above, and further in view of Zauman, and claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso as applied to claims 1 and 24, and further in view of Aviani.

All of the claims rejected above are depending claims, and the above secondary references are relied upon by the examiner to teach or suggest well known aspects in the art of endeavor. As applicant strongly believes that Basso has been demonstrated by to be deficient in teaching or suggesting, as required in a prima facie rejection, all of the limitations of applicant's base claims as supported in the specification of the claimed invention, depending claims 2-7, 9-23 and 25-28 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims standing for examination have been shown to be patentable over the art of record, applicant respectfully requests reconsideration, and that the present case be passed quickly to issue. If there are any time extensions needed beyond any extension specifically requested with this response, such extension of time is hereby requested. If there are any fees due beyond any fees paid with this amendment, authorization is given to deduct such fees from deposit account 50-0534.

Respectfully Submitted,
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